Remarks/Arguments

In an Office Action dated July 25, 2006 claims 1-24 are rejected under § 103 as being unpatentable over Hoese et al. (US 200210052986) in view of Chin et al. (US 6,000,020). Applicants request reconsideration in view of the remarks below.

Claims 1, 15 and 18

Independent claims 1, 15 and 18 all relate to restricting communications between devices that would otherwise be able to communicate. Applicants submit that Hoese does not teach or suggest such operations. Hoese is designed to provide a table in a storage router which provides the combined functions of routing and access control. As such, Hoese does not allow communications and then restrict such communication that it has allowed

The Office Action cites paragraph 19, lines 1-9 for the devices being able to communicate through the fabric and then paragraph 5, lines 7-12; paragraph 25, lines 3-6; and paragraph 26, last six lines as teaching the restriction of communications between the devices.

> [0019] In storage network 30, any workstation 36 or workstation 40 can access any storage device 38 or storage device 42 through native low level, block protocols, and vice versa. This functionality is enabled by storage router 44 which routes requests and data as a generic transport between Fibre Channel 32 and SCSI bus 34. Storage router 44 uses tables to map devices from one medium to the other and distributes requests and data across Fibre Channel 32 and SCSI bus 34 without any security access controls.
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> nected to a SCSI bus transport medium. The storage router interfaces between the Fibre Channel transport medium and the SCSI bus transport medium. The storage router maps between the workstations and the SCSI storage devices and implements access controls for storage space on the SCSI storage devices. The storage router then allows access from

[0025] The collective storage provided by storage devices **60**, **62** and **64** can have blocks allocated by programming means within storage router **56**. To accomplish this function, storage router **56** can include routing tables and security controls that define storage allocation for each workstation **58**. The advantages provided by implementing virtual local

controller **82**. A supervisor unit **86** is connected to Fibre Channel controller **80**, SCSI controller **82** and buffer **84**. Supervisor unit **86** comprises a microprocessor for controlling operation of storage router **56** and to handle mapping and security access for requests between Fibre Channel **52** and SCSI bus **54**.

Applicants reference paragraph 23, lines 1-4 and paragraph 47, lines 7-13 for the position that in Hoese the tables provide the combined functions of routing and access control.

[0023] Storage router **56** combines access control with routing such that each workstation **58** has controlled access to only the specified partition of storage device **62** which forms virtual local storage for the workstation **58**. This

directed to two separate subsets of storage. The storage router can use tables to map, for each initiator, what storage access is available and what partition is being addressed by a particular request. In this manner, the storage space provided by SCSI storage devices can be allocated to FC initiators to provide virtual local storage as well as to create any other desired configuration for secured access.

Paragraph 19 indicates the storage router 44 uses a table to perform the mapping used for routing, with no security control. Paragraphs 5, 25 and 26 just indicate that the storage router 56 performs the multiple functions of mapping and security access control. They do not specify how the storage router 56 performs the functions, just broadly that they are performed. Paragraphs 23 and 47 cited by Applicants clearly indicate that the functions are performed by combining them into a table, which single table performs the combined functions in a unitary and inseparable manner. Thus the table in storage router

44 has been enhanced by adding security control parameters, but otherwise is just a single table. Therfore the storage router 56 of Hoese cannot both allow devices to communicate and then restrict the communications. Further, storage router 56 has replaced storage router 44 so the two cannot properly be combined to provide separate elements of the claims as done in the Office Action.

As mentioned above, the capability for the devices to otherwise communicate is present in each of the independent claims. As also noted, the claims also require restricting communications of these devices that could otherwise communicate. Hoese does not teach or suggest this combined requirement of the present claims. Hoese either allows all communications without restriction (storage router 44) or does not allow communication by restricting it (storage router 56).

Therefore Applicants submit that Hoese does not anticipate claims 1, 15 and 18 but either is missing an element or actually teaches away when all of the claim limitations are fully considered.

Claim 2

Claim 2 was rejected on a purported showing in Hoese of several configurations being available and citing paragraph 47. Applicants respectfully traverse the rejection.

Paragraph 47 of Hoese just mentions that different initiators may be assigned to different virtual local storage. This is done in a single configuration. Merely having values for different fabric elements does not define a different configuration but rather portions of a single configuration. Claim 2 requires a plurality of configurations, with one being an effective configuration. In paragraph 57 of the present application "effective configuration" is defined as the actual configuration that is in effect. Thus the claim requires having a plurality of configurations, with one of them being in effect. Hoese only indicates a single configuration, not the plurality required in the claim.

Claims 4 and 19

Claims 4 and 19 were rejected based on the simple statement that storage communication is the type of communication and the communication is restricted to the specific storage communication. Applicants respectfully traverse this rejection.

Applicants submit that "storage communication" is not a proper definition of "type of communication" as required in the claims. Applicants provide several examples of "type of communication" at paragraph 65, including read-only, read-write and different protocols. Hoese only allows communication or restricts it based on the mapping between devices and storage. Nothing further. Additionally, Hoese only shows the "storage communication" defined by the Office Action, thus providing nothing to form a basis for any type distinction used to further qualify restricting communication.

Claims 5-8 and 20-21

Claims 5-8 and 20-21 were rejected over Hoese purportedly using device names independent of device position. Specifically the Office Action referenced paragraph 41, lines 1-6; paragraph 32, lines 1-5; paragraph 25, lines 3-6 and paragraph 36, last four lines; paragraph 41, last two lines. Applicants respectfully traverse the rejections.

Paragraph 41, lines 1-6 are somewhat confusing. The first three lines define general fabric port address assignment, but then lines 4-6 describe loop operation where the devices on the loop arbitrate for an address, not fabric port operation. The citations to paragraphs 25 and 32 do not appear to be relevant. The citation to paragraph 41, last two lines explains that on reset AL_PA addresses may change and the proposed solution is given in paragraph 36, last four lines, where forcing of AL_PAs by user configuration is described, thus overriding the normal AL_PA assignment process. None of these citations indicate that names are being used, only AL_PA addresses. Further, they generally only relate to AL_PAs with any specificity related to the remainder of Hoese, with AL_PAs not being based on a device's location on the fabric in the first place. When a fabric is started, each switch is assigned a domain value based on its location. Attached devices obtain domain address values from this assignment and then area values

generally based on the port of the switch to which they are connected. Thus the addresses are based on the device's location in the fabric. AL_PAs are selected by the devices themselves in the loop arbitration process (or user assigned as stated above), irrelevant of the location on the loop. Thus the citations even fail the basic requirements of the claim, much less the specifics of requiring a name to be given, not an address.

Claim 10

Claim 10 was rejected over Hoese with no apparent citation specifically to the claim. Applicants respectfully traverse the rejection.

Claim 10, as amended, requires the fabric to comprise at least two interconnected fabric elements and that each fabric element stores the definition of the first configuration, accesses it and restricts communication responsive to it. Hoese shows only a single device that can be alleged to be equivalent, namely the storage router, so the at least two fabric elements requirement is missing. Further, if Hoese had multiple storage routers, they would each have their own configurations, not the same one stored in each storage router, as would be required by claim 10. Thus Hoese does not teach or suggest claim 10 when all of the limitations are considered.

Claim 11

Claim 11 was rejected over Hoese paragraph 41, lines 1-7. Applicants respectfully traverse the rejection. Paragraph 41 just defines address development generally. It does not then even begin to suggest that the newly attached device is then checked for any definition of any configuration as required by the claim. Hoese could not teach or suggest such a requirement because it would be akin to a storage router being connected to a storage router as those are the devices in Hoese which may contain configurations. Hoese does not teach or suggest this configuration as it does not make sense. Further one would not store the configurations in the various drives of Hoese as only the storage router has a possible configuration. Applicants thus submit that claim 11 is allowable when the claim limitations are properly considered.

Claims 13 and 23

Claims 13 and 23 were rejected over Chin supposedly showing merging of fabrics. Applicants respectfully traverse the rejection.

Chin is specifically focused on keeping the two loops separate and repeatedly teaches against merging them. Chin states that by having the two loops configured as specified the Primary Loop does not slow down processing. Merging the loops as suggested by the Office Action would slow down processing of the devices on the Primary Loop, the exact opposite of the intent of Chin. Thus, not only does Chin not address merging of fabrics and the resultant modifications of the definitions as in claims 13 and 23, it specifically teaches against merging.

Conclusion

Based on the above remarks Applicants respectfully submit that all of the present claims are allowable. Reconsideration is respectfully requested.

Respectfully submitted,

/Keith Lutsch/

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